Analysis of transportation issues from a Chinese company and of cases basis on the green logistics to find out countermeasures for the issues

Study case: Smile (Tianjin) Logistics World Wide Co., Ltd (SLWW)

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ABSTRACT

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ABSTRACT

With economic development, environmental degradation at a deeper level, as part of economic activities, logistics activities are also facing environmental problems, the need from an environmental point of view of logistics system improvements, the formation of green logistics management system, which is the 21st century and the new trends in logistics management. Green Logistics emphasized that suppression of the logistics harm caused to the environment, while also enabling the purification of the logistics environment, so that the logistics resources are fully utilized. This is the deteriorating global environment, excessive consumption of resources. Human survival is threatened follow-up case; green logistics is undoubtedly of great significance. Based on the understanding of the green logistics and deeply research, along with the development of logistics industry process, the development of highway transportation and freight volume is increasing, Road transport market supply exceeds demand, excess capacity occasions ostentation and extravagance. The competition between highway transportation has become increasingly fierce. This not only brings opportunities to the development of highway transportation, but also asks for highway transport to deal with and mode of operation and adapt to the market. Therefore, the main purpose of the author's thesis is to make a study of the modern green logistics and in particular road cargo transport problems and countermeasures. To sum up, the core goal of the thesis mainly focus on include on as follows:

(1) Green logistics transportation current in development trend
(2) Transportation problems in the stage
(3) How can decrease as far as possible problems, through the green logistics way transport goods
(4) Measures to solve the problems and methods

In the end, the expectation of the thesis is that enterprises in the highway transport consider layout, save energy waste, reduce the environmental pollution and realize high, fast, quasi mode of transportation.

Keywords Green Logistics, transportation, countermeasures

Pages 41 p. + appendices 7 p.

CONTENTS

1 INTRODUCTION TO THE RESEARCH SCOPE

1.1 The purpose of the research

As we know as concerned, transportation is the most important link for the whole logistics system, which plays a significant role in the supply chain operation, but sometimes it consumes resources, as well as pollution and damage to the environment. Transport process should be caused tail gas leakage, noise pollution, and possible energy waste and so on. All of the green logistics management puts forward the topic. In recent years, intense energy supply and demand contradiction for the green transport is being more prominent. How to apply green transportation to achieve the harmonious development is today what people need to research and think about. In the premise of polluting environment, paying attention to the suitable modes of transportation has become important way of China's logistics industry also the international logistics industry. The successful experience of developed countries provided a reference for the Chinese enterprises within the progress of green transportation. In the paper, my research method has two parts to discuss; one part is from theory, which introduced the types of transportation in the company, another part of the thesis is Research Company, which the author have ever worked during the last year's summer vacation. For the second part, I used a questionnaire to investigate. From the point of view of the green logistics development, combined with documentation, which is related to the work company. At last, approaches to deal with the trouble. Finally apply the transportation within the green logistics field.

1.2 The background of the company

Smile (Tianjin) Logistics World Wide Co., Ltd was established in 2003, which is approved by the national foreign trade and economic cooperation department of Korean level freight forwarding enterprise. It is a Korean-owned enterprise in China, the operation of global shipping, airfreight, land transportation and logistics management business of international transport. Through many years of cooperation and good credit, the company has a large network of overseas agents. It relies on ports, which provide customers a set of customs control channels, as well as warehousing, distribution, container transportation, customs clearance, domestic and international freight forwarders, cargo stowage etc. As one of the international logistics services for customers, air and marine transportation of the company is being provided rapid and efficient third-party logistics services. To enhance management transparency, Smile (Tianjin) Logistics World Wide Co., Ltd Company built up the network connection between customers and employees, one hand, through this way, normally it can make fully meet the customer's requirements, on the other hand, it continuously improve communication channels. Through the unremitting effort and with a good reputation, as

a high quality service, the company has been won the trust of international customers; it has established good relations with a number of shipping from China, Japan and Korean. Besides that, The Company mainly has specific routes to arrive at Southeast Asia, the Middle East, Europe, Mediterranean, India and Pakistan. All routes occupy a certain advantage in the market. More important, with precious skills of logistics, strong sense of responsibility, the working staff can work well in space with nervous and force competition; the sales rep will be in accordance with the customer requirements to strive to customer service, to meet the needs of customers eager. In addition, Smile (Tianjin) Logistics World Wide Co., Ltd also engaged in the airline LCL and airfreight business, import airfreight, ocean freight container clearance and land transportation work, with advanced international management information system development, set up scientific business process, the establishment of all-weather, comprehensive and professional service of the whole process of the system. Smile (Tianjin) Logistics World Wide Co., Ltd has its own independent customs clearance and commodity inspection departments to provide import and export customs clearance, commodity inspection service, through many years of good relations with customs and commodity inspection department, it provides the most efficient service for customers comparing to other companies. On the other hand, Smile (Tianjin) Logistics World Wide Co., Ltd worldwide, is proud to be affiliated with the a serious of organizations such as" International coordinating council on trans-Siberian via transportation which is a non-commercial transport association with an open-ended duration, registered in the Main register of the canton of St. Gallen (Switzerland) on February 21, 1997" (CCTT editor, 2012).

Member of the international federation of freight forwarders associations (FIATA), 'FIATA is the name for this organization is based on the French title "Fédération International des Associations de Transit Aires ETAssimilés", in English "International Federation of Freight Forwarders Associations'. (RWFREIGHT import/export specialists, 2007.)Federal maritime commission, International organization for standardization (ISO 9001), and "International air transport association" (Tony Tyler, Director General & CEO since July 2011).

Smile (Tianjin) Logistics World Wide Co., Ltd has a class a license in China. In the end, The Company has a long-term signing and warehouse team to provide land transport and cargo storage, transit and other services.

Here are the Models which used in company's operation

For the following picture, this is the operation models, which used by employees to contact customers for the service and book online, shipping online as well as the good cooperation relationship with international enterprises.

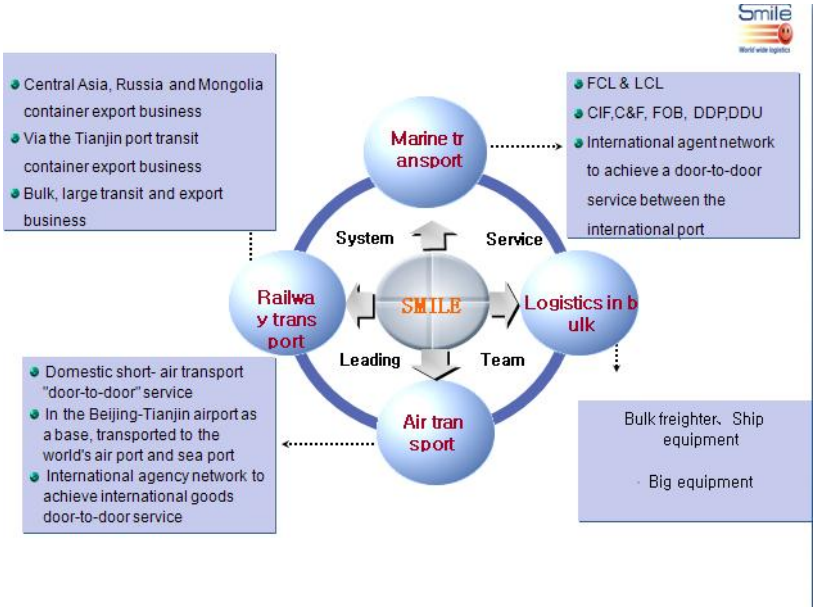
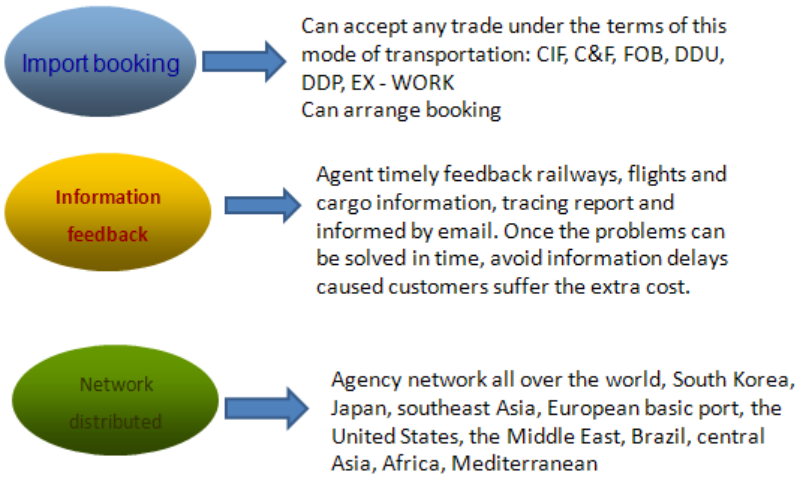


Figure1: The best transportation service introduction from Smile (Tianjin) Logistics World Wide Co, company.
Source: Designed by the thesis author according to the company manager's materials.

More importantly, the network distribution of the company also plays an important role in the Smile (Tianjin) Logistics World Wide Co., Ltd

The figure 2 shows the network distribution of the company. How a shipping company works and how they step by step to operate the software, the software used to contact customers and the company built up good network connection with different companies around the world. If something goes wrong, employees can make use of the network software to deal with difficulties.



CIF: Cost insurance and freight
C&F: Cost and freight (named port of shipment)

FOB: Free on Board
DDU: Delivered Duty Unpaid (name place of destination)
DDP: Delivery Duty Paid

Figure2. Good network distribution operation
Reference from the company's system operation

2 GREEN LOGISTICS RESEARCH SCOPE FOR THE THEORETICAL PART

2.1 What is logistics?

In order to meet the requirements of customers, defined as using the lowest cost, through the transport, storage, distribution, etc., to realize raw materials, semi-finished products and finished products or related information from commodity producing area to the consumption of the goods to the planning, implementation and management of the whole process (A.J. Hickford & Dr. T.J. Cherrett, 2007.)

Logistics composition is transportation, distribution, storage, packaging, transportation and handling, distribution processing and related logistic information and channels.

Logistics activities of the concrete content includes the following aspects: the user service, demand forecasting, order processing, delivery, inventory control, transport, warehouse management, plant and warehouse layout and location, transportation and handling, purchasing, packaging, intelligence information(Martin Christopher,2001 .)

In other words:

Logistics includes transportation, transportation and handling, storage, packaging, distribution, distribution processing, transfer goods from one place to another, loading and unloading, logistics information processing as well as distribution processing and other basic functions, so it is related to the economic activity. On the other hand, logistics is a process from the supply place to the ultimate destination. For instance, Smile (Tianjin) Logistics World Wide Co., Ltd Company mainly has specific routes to arrive at Southeast Asia, which means the company transports goods to the specified place for the customers. So, the logistics is the efficient, cost-effective flow. More important, logistics is a kind of creation value activity. Logistics plays an important role for the whole supply chain, not only the third logistics provide the economic service, they decreased the cost to transport goods with the efficient, fast way for customers, but also logistics promote technical skills which make everything better in the long-term in order to meet the customer's require-

ments. Therefore, logistics is the process of satisfying customer's needs continuously.

As the matter of fact, the essence of the logistics is the flow of goods and services that accompany with it, it produces is not the result of theoretical research and comes from the social economy, enterprise management needs, and has the characteristics of interdisciplinary. (Logistics management, 2012.)

Therefore, in the field of logistics, for the experts and scholars involved in the various disciplines, including systems engineering, circulation economics, business administration, transportation economics, transportation industry, science, information science, industrial organization science, psychology, urban engineering, accountancy, trade and other aspects, they make use of the theory of their respective disciplines, methods to study the logistics, the formation of a formal theory interdisciplinary characteristics (Greg Jackson, 1999.) From the point of their respective view of the research areas, and to explain the concept of logistics, so the international community still does not have a complete, accurate, and accepted uniform definition. The definition of logistics in various stages of economic development is to adapt to the needs of the different purpose of economic activity, and continue to be evolutionary, and even in the same stage of economic development of the same historical period, due to the different schools of thought, various academic groups, different institutions and in different countries, from different angles and perspectives for the definition of logistics will inevitably vary (Angus Stevenson & Christine A. Lindberg, August, 2010)

The principle characteristics are as follows:

1. Logistics reaction quickly
2. Logistics function integration
3. A series of logistics services
4. Logistics operation standardization
5. Logistics has a systematic target
6. Modernization of means in logistics
7. The organization’s network of logistics
8. Logistics business market-oriented
9. The electronic logistics information

2.2 What is Green logistics? (Environmental logistics)

Green logistics can be defined as controlling the damage caused by the environmental pollution on the logistics, to realize the purification of the logistics environment, make full use of logistics resources. It includes in the logistics operation and logistics management for the whole process of the green. From the logistics operation, we could find that it covers with green transportation and green packaging as well as the green

transportation processing, etc. From the view of logistics management, it mainly from the environmental protection and resource conservation goals to set out, improves the logistics system, both must consider forward logistics link greening, and to consider the supply chain of the reverse logistics system of greening. The goal of the green logistics is to achieve sustainable development; the target's rule is economic benefit, social benefit and environmental benefit unified.

Green distribution logistics Green production logistics Green supply logistics

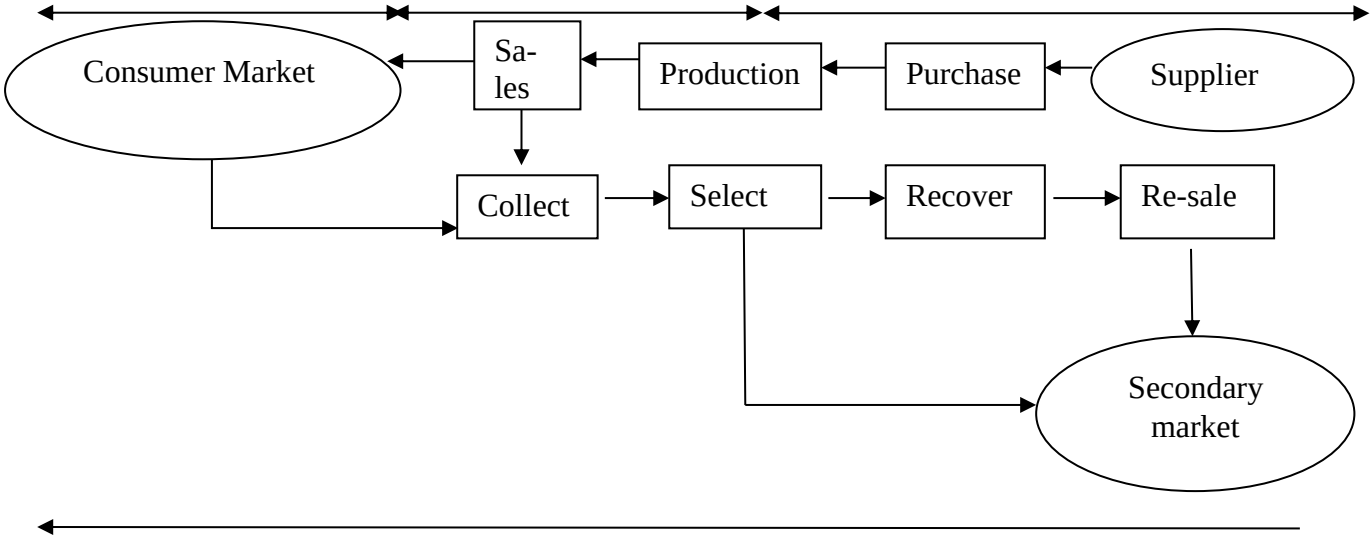


Figure4. Green logistics system structure (the flow chart introduced the whole process of green logistics systematically)
Source: Designed by the thesis author

2.3 What is Transportation?

The word transportation derives from the Latin words portage “to carry” and Trans “across”. From logistics textbooks, transportation in general means to carry something across the space from location A to the ultimate destination B. What can be transported? This can take the form of manufactured goods such as liquids, gases, raw materials, magazines, mails and as well as people by different types of transportation methods. (Rational transportation, 2012.)

Transportation plays a key role in economic success by allowing for safe and efficient distribution of goods and services throughout the supply chain. Transportation links various integrated logistics activities. With-

out transportation, the integrated logistics system breaks down. (LCY, 5th, May, 2011.)

Nowadays, companies pay much more attention to the green logistics. Transportation can be defined as a movement of people and goods from one place to another, whereas the optimal transportation means transportation of goods with minimum environment pollution and energy consumption. It includes six types: air transport, marine transport, road transport, pipeline transportation, water transport and railway transport.

It is significant that the transportation can be a suitable and low-polluted tool, which is used for urban environment of transport. In this way, people can consider that the transportation is a kind of communication media in order to complete the social economic activity and save construction maintenance cost with low pollution, which is beneficial for the urban environment diversified Concorde transportation system.

Furthermore, transportation takes the freight network and distribution centre into consideration. Also, it should have reasonable layout and well-planned transport routes, as well as through shortening distance to reduce the empty loading rate, realize the energy saving and emission reduction goals. Besides that, the other target of transportation is to improve the internal combustion engine technology and use clean fuel to improve energy efficiency. Green transportation also prevents leakage problems in the process of transportation, in order to prevent local area from serious environmental damages.

2.4 Several types of transportation

As the most important part of logistics industry, transportation includes several types for transporting goods, such as marine transport, water transport, air transport, road transport, marine transport and pipeline transport.

2.4.1 Marine transport

Definition of transportation by sea

Transportation by sea is referred to as shipping. This mode of transportation is to use ship to move goods and passengers through the seaway, which includes coastal transport and international ocean transportation. Ocean transportation is the international commodity exchange way, which is the one of the most important transport, freight volume of all international freight volume proportion about 80% above (The principle of ocean transportation, 5th, March, 2011.)
It is the use of natural marine channel, and ship's tonnage is generally not restricted. Its advantages include big capacity, low cost and so on.

But on the other hand, its feasibility can be affected by geographical conditions, sometimes by season influence.

Characteristics of marine transportation:

1. Natural Channel

Ocean transportation can be regarded as a natural channel not affected by road, or rail restrictions, because of extensive space and capability. With respect to the political, economic, and natural impacts, Ocean transportation can be adjusted and altered simultaneously and flexibly.

2. Large quantity of cargos; big capacity

As shipping industry develops, shipbuilding technology becomes more and more modern and consummate with larger delivery capacity. According to the records and books, Tanker has amounted to more than 600 thousand tons (TEU: twenty-foot equivalent units); the fifth generation container ship's container capacity is more than 5000 TEU. Growth rate of the capacity of shipping is immeasurable. (The characteristics of marine transportation, 16th, November, 2011).

In China, freight expenditures without doubt accounted for 10% of the total foreign trade import and export amount, especially bulk goods freight occupied in bigger space, In trade, if make full use of the international trade in terms of sent ships freight, a country not only can save foreign exchange payment, but also gain more foreign exchange income. For example, if the Chinese market assesses into the international shipping market, third countries transportation would be actively developed and it can create more foreign exchange income. At present, countries all over the world, especially in the development of coastal countries, have attached great importance to set up their own ocean fleet, paying attention to develop the marine cargo transportation. In some shipping developed countries, foreign exchange freight revenue has become the important pillar in the country's national economy.

2.4.2. Air transportation

Air transport is the use of aircraft, helicopters and other aircraft to transport personnel, cargo, and mail. It has becomes a modern passenger transport. In addition, it is an important way in remote passenger transport. It is essential in the international trade of valuables, fresh and perishable goods and precision instruments. (The size of the air cargo's requirements, 12th, November, 2012.)

Characteristics of Air transportation

1. Rapid delivery-- "Fast" is the biggest characteristic and advantage of air transport. Modern jet, with cruising speed of 800 ~ 900 km/h, is times faster than a car, 5 ~ 10 times than a train and 20 ~ 30 times than a ship. The longer distance needs to be covered, the more air transportation will be taken into consideration for saving time. (Air transportation, 2th, March, 2011).

2. The mobility is flexible- The plane flies in the sky, so that the route conditions are smaller than for cars, trains, and ships. It can link any two destinations on the ground, as well as can regularly or irregularly flight. Especially for disaster relief and supply in remote areas, air transport has become an indispensable transportation tool. (The characteristic of air cargo transportation, 18th, November, 2009).

3. Expensive- compared to the other transportation means. Air transportation is more expensive, but it can save time to transport goods more quickly than other ways. (The characteristic of air cargo transportation, 18th, November, 2009).

2.4.3 Road transportation

Road transport, or more specifically, highway transportation, can be defined as the way to transport goods and passengers on roads. It is one of the components of the transportation system. In general, it is responsible for short-distance freight transport. Horses and other animals were used commonly in the ancient times, but modern means of transport used primarily are the automobiles. (Dr. Jean-Paul Rodriguez and Dr. Brian Slack, 1998).

Characteristics of road transportation

1. The road transportation is Flexible and adaptable

The road transport network in general is ten times bigger than railway. So it can be understood that "Road transport is everywhere". Highway transportation is larger in terms of mobility. The vehicles may dispatch, ship at any time, times between each two links of cohesion are short.

2. "Door to door" service

During the transportation process, the road transport does not need reloading because of the volume of the vehicle is usually small; it can have a wide distribution along the network of roads running outside and also can leave the network and enter into factories and enterprises as

well as other places. As the result of it, through road transport, goods are directly transported from the “original place to the destination” Above all; it can realize the "door to door” transportation. This is one of the characteristics which other modes of transport cannot be compared with. (China Road Transportation Enterprise Survey, 2011)

3. Fast delivery

In short-distance transport, road transport can realize door-to-door service. Service, interchange can direct transport the goods to the destination, compared with other types of transport, the goods in transit time is short, fast delivery. (Tauheed, 17th, August, 2010)

2.4.4 Water transportation

Water transport means the use of ships as the main transportation tools, on the basis of port station for transportation, with water including oceans, rivers and lakes for transportation activities. Water transportation is still one of the most important modes of transportation in many countries around the world.

The characteristics of water transport

Big capacity with low cost, and less energy consumption, and less cost investment. For example, a Mississippi River is equivalent to 10 railways, and a Rhine is with a similar capacity as 20 railways. Among these factors, low cost investment is exceptionally important for some less developed countries. In addition, building 1 km railway or highway covers about an area of more than 3 hectares. Water transport takes advantage of marine and Natural River covers an area a little. In China, in terms of freight amount, the proportion of the water transport is ranked after railway and highway. (Domestic waterway transport management regulations, 2012).

Secondly, constraints of water transportation- Transport on oceans and rivers are constrained by geographical, hydrological and meteorological conditions. On the other hand, water transport routes cannot have any extension in the wide continental ground, so the water transport is often used in conjunction with rail, road and pipeline transport, and the implementation of intermodal.

Development related to water transportation- Water transport has become a wide development and utilization, such as natural rivers involving navigation, irrigation, draining of floodwater, hydropower, aquaculture and production and life water source, etc. Coastal zones and gulfs are involved in port construction, agricultural reclamation, marine aquaculture, coastal industry, marine fishing and so on.

Three forms of water transportation

Coastal transport. The use of ships through waterway to transport goods in the mainland; generally used in medium and small ships.

Ocean's shipping. Form of long-distance transport across the ocean; mainly rely on the large volume of large vessels.

Carriage of goods was transported by inland waterways. It uses medium and small ships to transport goods by rivers and other inland waterways.

2.4.5 Pipeline transport

Definition of the pipeline transport

The first pipeline transport was used for delivering petroleum in 1863.It was initiated from the suggestion of Dmitri Mendeleev, a Russian inventor and chemist. Mendeleev is also credited with inventing the earliest periodic table of elements. (China petroleum map, 2011).

Pipeline transport is used as long distance transportation of liquids and gases through pipelines. It is a kind of special transportation, which is utilized mainly by the producers of oil, coal and chemical products. Designed for a specific purpose only, the pipeline transport is effective in transporting large quantities of products, especially in liquid or gas form, and link isolated areas of production with major centres of refining and manufacture. (Popov, S. S. Transport nefti, nefteproduktovigaza, 2nd ed. Moscow, 1960).

Pipeline transport is one way of international transport, which is a special mode of transport with the development of oil production. With the increase in demand of oil and natural gas, pipeline transport development is speeding up the pace.

Characteristics of pipeline transport

Big capacity

A pipeline can continuously complete delivery task. Depending on the size of pipe diameter, annual volume can reach tens of millions of tons, even more than one hundred million tons.

Lowland occupancy

Transportation pipe is usually buried underground and occupies little land. Transport system construction practice has proven that transporta-

tion pipeline buried underground accounts for more than 95% of the total length of pipe. Land of permanent occupancy is only 3% of the highway and 10% of the railway. Land resources saved by pipeline transport are of great significance. (Smoldyrev, A. E. Gidro - ipnevmotransport, 2nd ed. Moscow, 1975).

Short construction period; low cost

Many cases have proven that the international transportation systems is better to use, compared with the same volume of rail way construction period, in general, pipeline transportation is morethan1/3 shorter than others.

Safe and reliable; strong continuity

Due to the fact that oil and gas are extremely flammable, pipeline transportation is very safe, and can greatly reduce volatilization in the air. Meanwhile, water and soil pollution can also be greatly reduced, which means that pipeline transportation can meet the green requirements of the transport engineering. Basically, transportation system can operate with a stable environment in a long term.

2.4.6 Railway transportation

Railway transport is the most effective land transportation; Railway transport saves energy. If carried out properly, railway transport will carry the same weight of goods but consumes 5-7% less energy than road transport. (Railway transportation, 11th, November, 2012.) Moreover, weight of the train is spread evenly on the railway track, making an extremely great trainload possible.

Characteristics of Railway transportation

Transport capacity is suitable for large quantity, low-valued products. The speed is fast: average speed ranks second within the above-mentioned six types of transportation. Rail transport is not affected by climate and natural conditions. Furthermore, it can be convenient to realize piggyback transportation, container and multimodal transport.

2.4.7. Advantages and disadvantages for the six transportation ways

As we know, transportation plays an important role in logistics. On the one hand, it promotes the economic development; on the other hand, as

the number of logistics companies increases, more and more people pay attention to the types of the transportation, which can be more effective, sufficient, and safe. According to the characteristics of six kinds of transportation, the following chart shows the difference between six transportation ways what are advantages and disadvantages then compare with each other, and find out the pros and cons.

Mode	Advantages	Disadvantages
Water transportation	The long history of the mode of transport, large volume, less investment, low cost	Speed is slow, flexibility and continuity difference, the channel hydrological condition and meteorological and other natural conditions influence
Marine transportation	Natural channel, carrying quantity is big, freight is low	peed is slow, big risk
Air transportation	Speed, transportation efficiency is high, is the most efficient modern mode of transportation	Traffic volume is small, energy consumption, freight is high, and the investment for the equipment was big, technical requirements strictly, is the most efficient modern mode of transportation
Pipeline transportation	The gas is not volatile, the liquid does not drain, loss is small, the continuity is strong, great capacity	The equipment investment is large, the worst flexibility

Land transportation	The fastest growing, most widely used, is becoming more and more important status of the mode of transportation. Flexible, the turnover speed, loading and unloading convenient, to all sorts of natural condition adaptability	Traffic volume is small, more energy, the high cost and freight is more expensive
Railway transport	One of the most important transportation, Large capacity, high speed, freight is low, the natural factors small, small continuity	Small volume, low energy consumption, high cost, expensive freight

Figure 5 compares the pros and cons of types of transportation, designed by the thesis author

To sum up, general principles for selection of transportation modes would be better, faster and more economically

Transport of goods according to the nature of the goods, quantity, distance, price, aging, etc. choice mode of transportation, any mode of transport take consideration into technology and economy, have the most suitable range of application.

Air Transport: valuable product, in urgent need of the goods, the quantity is not big. (International Logistics: Global Supply Chain Management by Douglas Long.)

Highway: short distance, small quantity, metamorphic living creature, fresh fruit or vegetables (Mark A. Marek, P.E, 1th, May, 2010.)

Railway: remote distance, large quantity, easy to death, metamorphic living creature, fresh fruit or vegetables. (Lamar Stonecypher, 8th, Auguest, 2011.)

Shipping: large quantity, bulky goods, remote distance, not the much-needed goods.

3 ANALYSED THE TRANSPORTATION CASE FROM SMILE (TIANJIN) LOGISTICS WORLD WIDE CO., LTD (PROLEMS AND COUNTERMEASURES)

During the last summer vacation, the author was working in the Smile (Tianjin) logistics worldwide CO., LTD Company. The company has already had a project, which included a series of transportation problems that company met, according to the difficulties, and the development of Tianjin logistics condition. The object was to find out the countermeasures to deal with those problems.

3.1 Research methods

The main objective of the research methods mainly through the logistics companies' cases is to make a study of the cargo transport then use the data collection which will enable the author to analyze transportation problems caused by logistics operations errors or human resource internal management issues and how the company handled difficulties in the end. On the other hand, the author made a questionnaire to send to the Chinese and Finnish companies to find out the way they understand the importance of transportation and how to develop the transportation based on the green logistics trends.

3.1.1 Data Collection and Questionnaire

Data collection is the process of gathering together information. This is most commonly referring to information being taken from research. It includes data of descriptive analysis, linear regression analysis, variance analysis, principal component analysis and canonical correlation analysis, etc. Through the data Collection, the company can look into the more information of the research and compare with advantages and disadvantages to usage. It is a way of researching data by cleaning, inspecting, and modeling the data. The goal in data collection is to emphasize useful information, and suggest conclusions. Above all this is the first method to use. Besides that, the second tool used is the questionnaire. A questionnaire is the social survey of a data collection method. When the researchers want to through the social survey to study a phenomenon, they click link to add the caption (such as what factors influence customer satisfaction), he can use a survey to collect data, and can use the interview or another way collect data. A questionnaire assumes that researchers have to know what questions to ask. These issues are written on the questionnaire; then the writing problems form is prepared, to fill in investigation object, and then back finishing the analysis, and thus drawing the conclusion. On the other hand, questionnaires can be written in such a manner that allows the researcher to gather information in a format which supports the research method. The researchers will have

to establish a problem form at first, then send the questionnaire by post, or reply face to face as well as tracking the method to answer, to learn how to try a phenomenon or ideas and opinions on the problems, so it is also defined as problem form method. To be effective, the key is to develop questionnaire and results analysis.

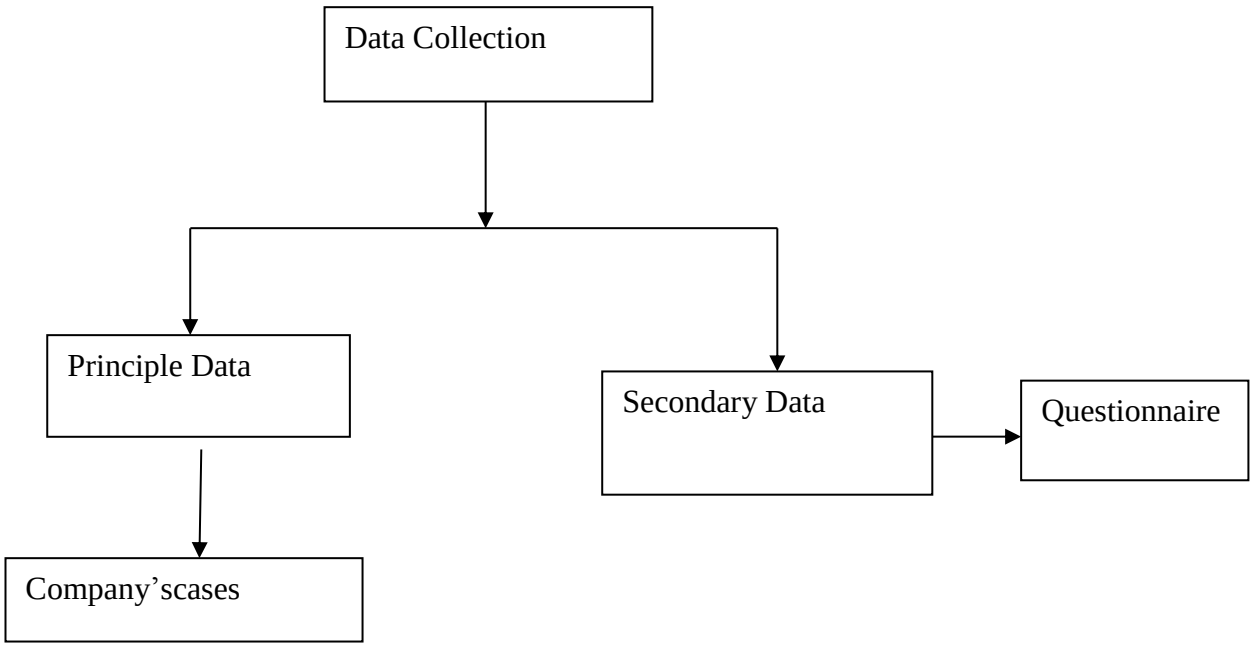


Figure .6 Methods of data collection Source: Designed by the thesis author [An idea from the IT tools course of the HAMK University of Applied Sciences.]

3.2 Problems from companies' cases

3.2.1 Impacts of the transportation

The environment is the theme of the era, protecting the environment, controlling pollution and public nuisance is a common goal of companies throughout the world. With the advance of transportation, at the beginning, most of company's attention to goods transportation instead of development of the transport industry under the premise of protecting the environment, as the result of it, some companies increase the vehicle fuel consumption usage, because of overloading transport goods to increase the usage of cars can earn more money. Due to excessive consumption of vehicle fuel, it raises air pollution and noise pollution, too many vehicles cause traffic congestion; worsen the environmental pollution such as:

1. Air pollution

Transportation will produce several pollutants, which are particularly harmful to health, and examples are as follows:

Co: carbon monoxide: Due to the rapid combustion of the fuel, especially in traffic jams which accelerate fuel combustion, it will combine with oxygen in the air to form carbon dioxide.

NOx: Ox nitride: These are the products formed by the nitrogen and oxygen in the air at high temperatures

CO2: Carbon gas or carbon dioxide: Any combustion process can produce this kind of gas. According to the research, transportation emissions of carbon dioxide accounted for 33%.

2. Noise pollution

Traffic noise is produced by many forms of transport, which includes motor vehicles, railway locomotives, motor vessels, aircraft and others. It easily generates noises to pollute the living conditions of the neighborhood.

When transporting goods, driving, engine, whistle and other reasons will generate some noises, if the noise decibel is too big, it can be harmful to pedestrians. It also interferes with people's rest and sleep, and effects work efficiency.

3. Environment impacts

The production of dangerous chemicals, the use of stored procedures must be related to the transportation problem. According to statistics, more than 95% of the hazardous chemicals are involved in the off-site transportation problem, for example, the annual flow of the liquid ammonia capacity of over 80million tons, the annual flow of the liquid chlorine capacity of more than 170 million tons, of which 80% is transported by road. Domestic and international statistics show that dangerous chemicals, transport accidents accounted for 30% to 40% of the total number of accidents of dangerous chemicals.

On the other hand, though centralized inventory enterprises we can effectively reduce logistics costs, because making more than one journey to transport goods, increases fuel consumption and road area.

More important, Warehousing will not reasonable cause damage to the surrounding environment impact. Mismanagement or operator errors lead to damage to the goods, deterioration, leakage, especially chemicals, will be fatal or harm to the surrounding environment. In addition, if warehouse location selection is not good; it will increase in the number of transport and transport distance, leading to the improvement of logistics costs.

Countermeasures for the problems:

Control the use of the number of trucks, and reduce the cost, reasonable arrangements for the delivery of goods vehicles, to reduce the waste of resources. Besides that, strengthen the oil-based management, improving the fuel testing means, to reduce vehicle fuel consumption and objectively reflect the real consumption of the vehicle transport. According to the problems, company records the amount of oil consumed on the vehicle loading items, import and export which has special member to measure the fuel consumption and inventory check, and do the registration ledger every time. To ensure the consumption of the vehicle fuel and save energy day by day along with the green transportation. More important, strengthen the vehicle operation management, improve vehicle distribution carrier, reduce vehicle empty distance; control the vehicle's speed, take the economy fairway, vehicle operating under the premise of safety, effectively reduces fuel consumption; Save energy waste, protect the environment. Learning to strengthen the training, the promotion of energy-saving technologies, improve energy management, multi-round energy saving lectures, lectures for green logistics, explore and study the application, and take effective measures, the concerted efforts, in order to enable enterprises of the logistics industry to the rapid and sustained development.

3.2.2 Logistics and transport problems and countermeasures from the Smile (Tianjin) Logistics World Wide Co., Ltd

At present there are serious loopholes in the management of logistics and transport companies phenomenon. During the period of the internship when I was in China, I made an interview for the manager of the Smile (Tianjin) Logistics World Wide Co., Ltd which would enable the author to analysis the problems of company. With the help of the manager, the common problems were seen to be.

Vehicle parking place is not focused and the scheduling staff did not know the vehicle parked position; when staffs need the vehicles they only call consulting, as the result there is increased communication costs and delay time. This is the first part of the problem.

At the same time, the dispatcher cannot master vehicles to make sure that is "empty/half a year or load". As a result of it, lots of vehicles are empty instead of carrying goods. Meanwhile, half load vehicles cannot be filled. They must load other vehicles from the off-site scheduling. But it appears that the scheduling is unreasonable phenomenon. Finally, it increased the operation cost and a waste of time.

Due to the loading and unloading cargo analysis, diversification models (a backboard/posterior damper, covered/no cover, yellow/white card, etc.), there are many constraints, such as weighing, lunch, loading and unloading, transport, party a constraint, etc. According to the complexity of types, they arrange a dispatching plan, but the scheduling staff is unable to dispatch the most appropriate vehicle. It often appears scheduling empty cars acceptance of goods from afar to the destination.

3.2.3 Human resource problems

In fact, there are few human resource staffs in the company, because of this situation; drivers cannot concentrate on their assignments. At the beginning, the company plans to complete the task, but some drivers were sending goods over time which consumed literally 2 to 3 times, which lead to vehicle usage decreased, no production value. On the other hand, the transport group of the company has not regulations for drivers. For this purpose, some drivers often reimburse payment vouchers without going through the toll station or repair invoices as well as the fuel invoices payment receipts. In the same way, some drivers often steal fuel sales when they are on the road, to this end, the result is a loss of up more than 300 million RMB per year in the company. Above all, some drivers reported falsifying a large amount; and it is difficult for the company to check, so the financial damage vulnerability is more than 230 million a year.

3.2.4Transportation's supervision problems

Timeout delivery---some of drivers in accordance with their thought, time to arrange carriage of goods, this leads to "timeout loading/delivery" phenomenon"

Departure -after the overtime parking----Some of drivers often finish loading and unloading the goods do not immediately start/return to the original destination, normally, drivers take a short time rest before departure/return, in that case, it results in the loss of time and the low utilization rate of the vehicle.

Speeding ----during the transport process, some drivers are often super-speed driving, resulting in serious traffic accidents, therefore, the result brings in calculable losses to business and customers.

Theft – some of drivers steal equipment from the truck, after that, as low price to sale. Finally, the company suffered huge losses.

Bad driving ----the vehicle is the property of the company, not the drivers personal product; as the result of it, almost all the drivers do not take care to protect the vehicles in the day-to-day transportation. They try casual driving, step on the gas, slam the brakes on the rugged road-speed and bumpy driving, the result leads to the serious loss of vehicle fuel, Above all, the vehicle is damage and it is not possible to estimate the economic losses for the company.

3.2.5 Operating expenses problems

Along with the changes to the internal business, the company should increase personnel management, the company's personnel salary, social security, office expenses and subsidies. And other fees that increase; for instance, scheduling command vehicles lead to the drivers having to call to make sure how process is going, accordingly, the monthly telephone communication costs are increased.

3.2.6 Staff’s performance statistics problems

The company has been taking artificial statistics for drivers, business personnel, and relevant personnel of the working condition in the past few years,. The complex statistical work appears to have unavoidable problems, such as take the wrong working hours or remember more working hours and etc., this kind of conditions results in the company's financial personnel, scheduling management personnel busy with checking working hours with drivers instead of concentrate on the assignment. As the result, it wasted a lot of human and material resources and time. Besides that, the emergence of the false regular examination, of the drivers, the sales rep and related personnel leads to emotional dissatisfaction or whining and unsatisfying work, etc., which seriously affects the normal operation of the plan, and also a series of unexpected management and economic loss events.

3.2.7 Transport management system problem in the company.

The first question appears in the transportation management, another one happened in transportation vehicle. The company has not a basic management system, which is used for personnel management. Generally, in accordance with the previous transportation methods, methods of recruitment, training methods to manage personnel rather than employing the specific standardized management system, which led to the low quality of the transportation personnel. Therefore, staffs often drive cars under the unsafe transport process, so the transport personnel life and property is threatened. On the other hand, management of vehicles is not impeccable, even though the company has an excellent positioning system, but for the maintenance of the vehicle, the scheduling allocation and cargo traffic managements are unsatisfactory, resulting in shorter life of the vehicle and there will be appeared freight overload, resulting in increased transportation costs.

3.2.8 Single mode used in transport.

The mode of transport is one of the factors that must be considered when deciding the transport of choice whether the transport is reasonable or not. The main transportation such as roads, railways, aviation, pipelines, waterways etc., has its pros and cons. The main transport for the Smile (Tianjin) Logistics World Wide Co., Ltd Company is marine transport. Road transport vehicles are relatively complete, but it is not used in conjunction with other modes of transportation; it is also difficult to achieve the highest transport efficiency and to make the transport of goods restricted.

3.2.9 Transport route designs trouble

Transport route design problems are in the process. Transportation route design is unreasonable because of convective transport, circuitous transportation; it will increase transportation costs, and extend the transit time. These kinds of problems have been apparent loopholes in the Smile (Tianjin) Logistics World Wide Co., Ltd Company transportation route designs; it often leads to extend the transport distance or transport vehicles in a crisis, etc., but also leads to a lack of unity between the driver and employees.

3.3 Measures basis on the transportation problems

Turning to the vehicle scheduling problem, it can be a unified vehicle storage site, according to the specific situation to determine site selection in advance, so that the vehicle deployment to choose the storage site at the next day on the basis of the daily vehicle length of run. In addition, vehicle scheduling and arrangement is the solution of the problem, the driver must check the goods and vehicle information before coming off work every night, summarize the computer or paper records, arrange the work, to record as the foundation, allocate the car. In the end, making a summary for scheduling of vehicles and transport vehicles, based on the allocation of each car. That is the first part of the vehicle scheduling countermeasures.

Through the human resource problems, the way to solve this kind of problems is to summarize the company goods cost, and layout transportation route, analysis the consumption of Road data in toll Station. Therefore, the driver should report details every day. Besides that, the mileage, of which transported goods and the quantity of the location information needs to be analyzed, for instance, scheduling circumstances. More important, the cost of highway data generation should be input to the system. Correspondingly, after the drivers reported delivery corresponding expense invoice, in accordance with the summary of the delivery route scheduling, transportation costs must to be verified, if any maintenance is required, drivers should describe in detail especially parts of vehicle requiring maintenance or damage and the specific circumstances and reasons for scheduling unified arrangements refueling. Those are the measures for the human resource problems.

For the transportation's supervision problems, the most effective measures is that the long-term delivery route needs to be fixed, if the driver has no special reason to display, drivers should be delivering goods according to the specified route, statistics the time of route to be needed for delivery. Involving toll station, produce the corresponding cost, if there are special circumstances, need to contact confirmation with the scheduling vehicles at first then take corresponding solutions.

For the last problem, the way forward is to improve all the employees understanding of the logistics and transportation knowledge, strengthen the training of employees, and cultivate a number of high-quality management personnel. Through the road transport industry association, organized transport enterprise activities, production enterprise should take use of various channels to learn logistics, to make plans to further deepen research.

In comparison, the company needs to seize the opportunity, forming a number of modern large transport enterprises. Due to the relevant government departments, there is a need to improve the existing enterprise

structure, cultivate abundant funds and a promising large logistics enterprise, to comply with the new requirements of the freight transportation, to meet new challenges. Through the competition, mergers and the power-and-power union, etc., on the one hand, forming large group enterprises, leads to the intensive management road, leading the industry development to a new standard, to meet new challenges.

Transport enterprise establishes market position, actively pushes forward contract logistics, which finds out the point of the development of logistics industry and guides freight enterprise development. According to the condition of market, the enterprise should combine with the development of the company to determine the market positioning. Logistics enterprises should not compete with the horizontal business on the same level. The purpose of the logistics enterprise services should consider the foreign-funded enterprises at the beginning. In general, the products have higher level and quality. Transportation's quality and safety requirements are relatively high. As long as transport has a large improvement in the service quality, as well as the convenience, timeliness, economy, reliability, security and other aspects of doing better, the company will be able to gain market. The auto transportation enterprise should consider the customer as the link, and organize the large or medium-sized business composition logistics, to actively push forward contract logistics, and actively push forward contract logistics to break the boundaries of "public" and "owned" vehicles. Above all, these are an effective way for the development of logistics enterprises.

The design of the transportation network is reasonable and does not directly affect the level of the transportation cost of logistics enterprises. There are some factors that people need to consider for the transport network; for instance transportation network, distance or transportation of goods, logistics management capabilities, inventory management, funding as well as the location of the supplier and customer location. Then according to the condition of company, design a suitable scheme for the transportation network, and further optimization.

A variety of modes of transport combined. With the development of the economy, a single cargo transport has been eliminated in modern logistics. As becoming a leader beyond the five modes of transport, multimodal transport needs to be used in combination, considering the transportation time and transportation costs, as well as transport capacity, weighing the pros and cons, which improve transport efficiency. Multimodal approach will help the enterprises to play the advantages of an integrated transport, convergence and coordination of effective organization for the various modes of transport, to select the most suitable transport to use and accelerate the turnover of goods and capital, and give full play to the overall function of the integrated transport. The Smile (Tianjin) Logistics World Wide Co., Ltd Company should actively adopt the multimodal transport mode of transport, improve transport efficiency and reduce transport costs.

Optimization transport routes. The rational design of transport routes is an important part of the logistics and transport. Therefore, it should be used in the case of the external conditions, such as the transport of each delivery point, delivery and other factors to determine the transport distance and minimizing the work is done to optimize transport routes. I propose the following three solutions for the Smile (Tianjin) Logistics World Wide Co., Ltd Company logistics transportation routes problem: First, regarding all the transport paths involved in the business listed in the company, the distance of each route needs to be considered, and are the road conditions appropriate to understand. Second, consider the volume of transported goods. Finally, using of the optimal method to get the optimal path.

3.4 Case Analysis

3.4.1 A single form of business organization, processes traditional

Through the investigation, people know that the company is mainly using the traditional operating procedures, only the specific operation of business activities are put into the latest software to operate business, but the application of computer and the level of transportation information is too slow, so that the vehicle's controllability is very low, the vehicle's return time cannot be controlled.

In addition, the company's cargo transportation organization mainly uses linear function type, divided into two ways:

LTL (Full-Track-Load) Transportation Organization form

1. LTL: the transportation form of organization is a kind of vehicle run, which is organized by the characteristics of the LTL and taken accordingly. Based on the characteristics of package transportation, LTL transport is certain of mode of production that in accordance with the assembly line to work. Its operating included: accept the consignment, inspection division pounds, hanging sign warehousing from the ticket charges, distribution loading, cargo transportation, or arrival unloading and cargo delivery.

2. Vehicle freight business operating

The automobile freight business operations included checks with respect to the carriage of goods, loading and unloading, the ticket, departure, transportation arrives delivery, operation and clearing fees.

Transportation packages, which check the loading time in general takes an average of about 5 days, from the carrier to the departure time for

truckloads, average of four days, so most of the time wasted in the transportation companies in the freight yard.

From the point of view of the vehicle freight business organization: the occurrence of carrier business takes 0.5 days, one day inspection, with shipped and scheduling trucks takes 1.5 days (sometimes due to the round-trip time of the vehicle cannot control, the vehicle cannot be in place in time, making shunting time longer), loading trucks takes one day. Timetable trucks running, to be able to timely monitor is difficult to control, so that the exact arrival rate of road transport is difficult to monitor.

3.4.2 Work inefficiently issues

The company's staff organizational structure is still in accordance with the typical national staffing divisions, so that managers exhibit rigid thinking and behavior, low efficiency, lack of standardized self-regulatory mechanism.

Recommendation1: According to the company's current freight service organization status, it is suggested that they increase the freight transaction information center. On the other hand, to realize information communication and intermediary service function, increase the vehicles, goods demand, and speed up the efficiency of the transport of goods. More important, accelerate the achievement of computer networking, the establishment of a trading information center, customers can not only have full access to the information, to group goods directly or stowage, but also get the transport control department issued single agency billing, insurance, handling and transportation disputes services.

According to the past business organization defects, it is suggested that the business process reorganization is restructured as follows:

1. Suggest that we should set up information accounting center, recommended the establishment of three information accounting business institutions to be incorporated into the system, the overall enterprise involves a variety of information.

2. Recommend the establishment of a transport business center, responsible for all aspects of the transportation and production of the company.

3. Suggest that we should set up quality supervision center, which is responsible for the cargo transport business in the process of all kinds of goods loss generated affairs.

In the end

A. Analyze the vehicle freight business process restructuring, carrying business occurrence and shunting occur at the same time,
B. Inspection business and send a truck occurring as well,
C. Required inspection vehicle can reach the designated position, so that the original straight chain business will become two parallel operation flows, it can make the goods in the yard which is reduced to 2 days to the stop time.
D. Set up information processing center become a freight department contact center, it combines relatively independent departments with a network system, speeding up the departments of information communication, so that the information center master in time the status of the company, so as to ensure the goods loading and sending on time. Also, the truck running schedule can use GPS intelligent positioning system, it can be timely monitoring, making the highway transport accurate arrival time and controlling the return time.

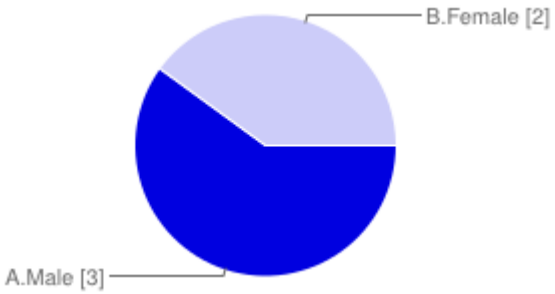
Recommendation2:

A. Transportation should have the awareness of service spirit
B. Develop a strategic partnership with the client
C. Extended supply chain development
D. Integrated marketing resources for customer service; initiative to understand the supplier's supplier and customer activity process and operational requirements, as well as services in the logistics channels structural changes
E. Design new logistics solutions for customers, and establish the new competition in the market of the Community.

3.5 Analysis of data

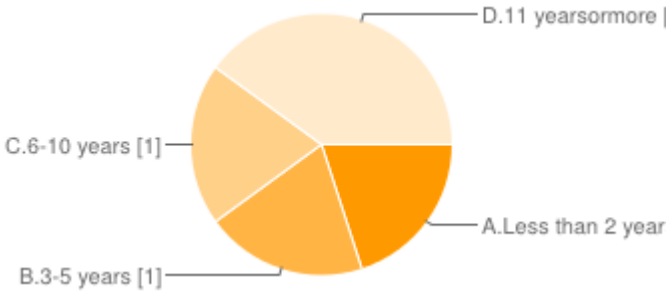
As the description of the data collection, combining the data source with the transportation material to make a questionnaire then sent to the Chinese companies and Finnish company as well. Finally, the author received five answers from the company’s managers. The following is the result of the questionnaire.

1. Gender



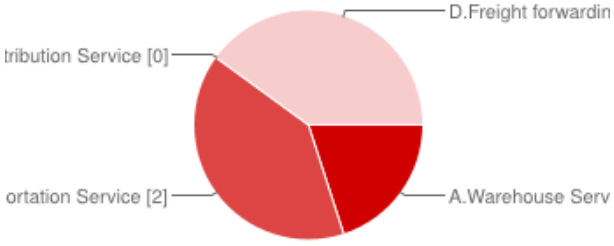
A. Male 3 60 %
B. Female 2 40 %

2. How many years has your firm been involved in logistics industry?



A. Less than 2 years 1 20 %
B. 3-5 years 1 20 %
C. 6-10 years 1 20 %
D. 11 years or more 2 40 %

3. What is your enterprise's main business?

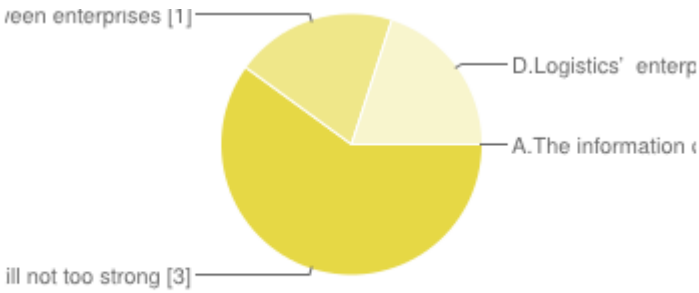


A. Warehouse Service 1 20 %
B. TransportationSer-vice 2 40 %
C. Distribution Service 0 0 %
D. Freight forwarding service 2 40 %

4. What do you think is the most important issue in transportation at present?

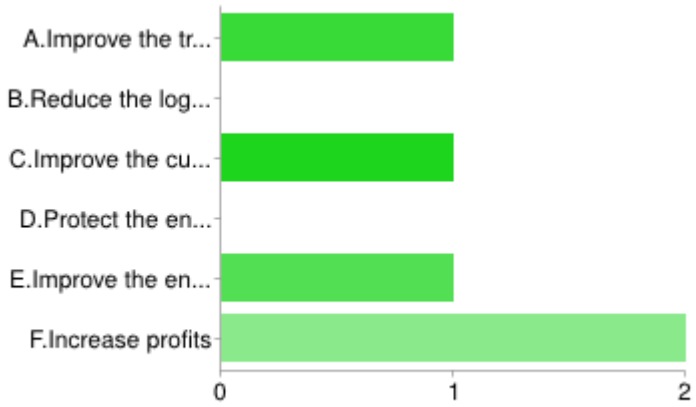
A. The information of technology is inadequate 0 0 %
B. The enterprise and the consumer of transportation concepts are still not too strong 3 60 %
C. Lack of cooperation and communication between enterprises 1 20 %

D. Logistics' enterprises lack of experience 1 20 %

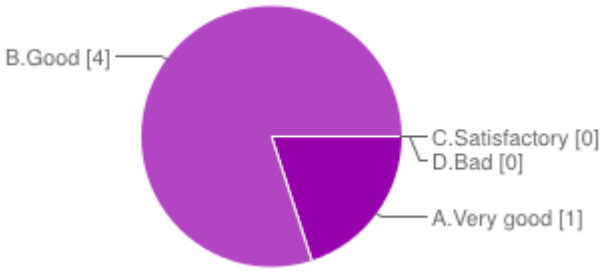


5. What kind of elements do you think can promote transportation in your company?

A. Improve the transport efficiency 1 20 %
B. Reduce the logistics cost 0 0 %
C. Improve the customer service level 1 20 %
D. Protect the environment and resource reuse 0 0 %
E. Improve the enterprise image 1 20 %
F. Increase profits 2 40 %



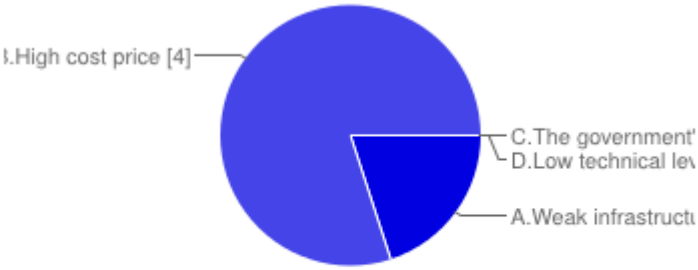
6. What do you think of the transportation development in China as well as Finland?



A. Very good	1	20 %
B. Good	4	80 %
C. Satisfactory	0	0 %
D. Bad	0	0 %

7. What do you think are the factors affecting the development of transportation?

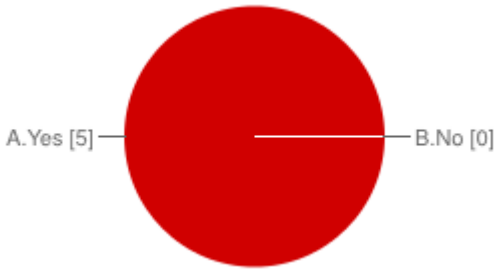
A. Weak infrastructure	1	20 %
B. High cost price	4	80 %
C. The government's involvement is not high	0	0 %
D. Low technical level	0	0 %



8. Does your enterprise support the development of transportation?

A. Yes	4	80 %
B. No	0	0 %

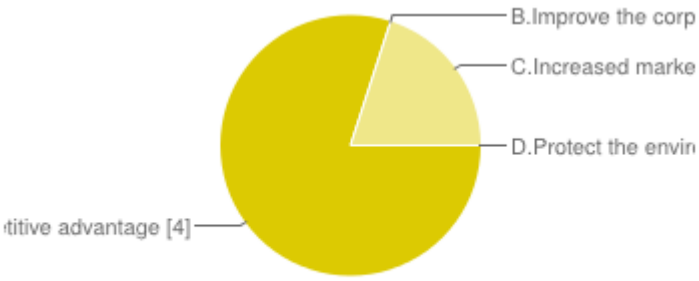
9. Do you think that your company practices green transportation based on green logistics?



A. Yes 5 100 %
B. No 0 0 %

10. What kinds of benefits do you think your company will obtain from the development of transportation?

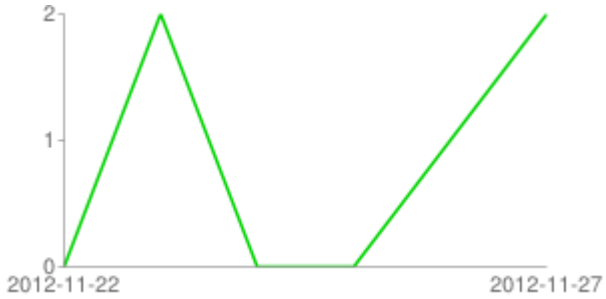
A. Get a new competitive advantage	4 80 %
B. Improve the corporate image	0 0 %
C. Increased market share	1 20 %
D. Protect the environment; raise the utilization ratio of natural resources	0 0 %



11. What is the biggest transportation issue in your company? And how did your company handle it?
A. Get new competitive advantage Last mile transportation, only partly solved at the moment.
No

12. What kinds of achievements did your company get on the transportation?
No

13. What are the challenges faced by logistics companies?
No1, logistics competitiveness; 2, optimization of logistics facilities, 3, the cost of the problem; 4 logistics personnel missing, Uncertain economic situation affects all logistics companies.



Through comparison, the picture can display how progress the company made with the development of the transportation, and what kind of transportation problems affects to the company forward and etc. To be honest, although, the transport industry has been doing evaluation, most companies still faced by the cost problem and logistics competitiveness as well as the optimization of logistics facilities. High cost price plays a key role for the whole logistics industry, so the best elements, which can promote the transportation company most people vote the increase profit and increased the customer service, as a matter of it, with the long-term advance, the effective method is to decrease energy consumption basis on the green logistics. The most reason is that low-carbon environmental protection has become a hot topic of global concern; the logistics industry is not only to promote the development of the national economy, as well as the need to adapt to the economic development of low-carbon. Therefore, the objective of the data collection is to make a study company transportation situation and basis on the feedback to think about the green logistics development. Because the green logistics in order to reduce the pollution of the environment reduce the consumption of resources as the goal, stressed the overall situation and long-term interests of the full range of environmental concern, in order to achieve sustainable development (Soft Transportation, 2012).

4 RECOMMENDATIONS

4.1 Make an intensive study of transportation through cases research

Through all the cases from the company and after make an intensive study, which included the meeting the author had with the company's manager as well as the questionnaire made. Combining with the background of the company according to the green logistics development,

the transportation should take consideration into the energy consumption problem. Such as direct energy consumption, Primary energy consumption, and Equivalent CO2 emissions. Primary energy consumption means put the direct the energy consumption value multiplied to different coefficient (Primary energy coefficient) to get energy value. Equivalent carbon dioxide emissions (Equivalent CO2 emissions) are to direct the energy consumption value multiplied to different coefficient (Equivalent CO2 emissions coefficient) get energy value. Here is a Unit Conversions, Emissions Factors, and Other Reference Data which displayed the related natural gas/

CO_2 Emission Factors by Fuel Type per Unit Volume, Mass, and Energy

Fossil Fuel	*Emission Factor*	*Emission Factor*	*Carbon Factor*	*Heat Content (HHV)*	*Carbon Content Coefficient*
Coal	(lb CO_2/ short ton)	(lb CO_2/ MMBtu)	(kg C/ short ton)	(MMBtu/ short ton)	(kg C/ MMBtu)
Anthracite Coal	5,675.29	226.16	709.04	25.09	28.26
Bituminous Coal	5,086.36	203.99	635.47	24.93	25.49
Sub-bituminous Coal	3,656.14	211.91	456.78	17.25	26.48
Lignite	2,991.33	210.47	373.72	14.21	26.30
Unspecified (industrial coking)	5,444.58	205.11	680.22	26.54	25.63
Unspecified (industrial other)	4,744.80	205.99	592.79	23.03	25.74
Unspecified (electric utility)	4,289.96	207.91	535.97	20.63	25.98
Unspecified (residential/commercial)	4,779.26	208.39	597.10	22.93	26.04
Natural Gas	(lb CO_2/ft^3)		(kg C/ft^3)	(Btu/ft^3)	
Natural Gas	0.120	116.39	0.0149	1,027	14.47
Petroleum	(lb CO_2/bbl)		(kg C/bbl)	(MMBtu/bbl)	

Figure10 Unit Conversions, Emissions Factors, and Other Reference Data Source: Primary kWh to Btu number from U.S. DOE/EIA, 2004 Annual Energy Outlook, 2004, Appendix H. Based on this heat rate, electric generation is approximately 34% efficient. The term Source may also be used for Primary, and the term Site may also be used for Delivered energy. Electricity, delivered is the amount of electric energy delivered to the final customer after electric losses. Electricity, primary is the amount of energy (fuel) an electric generator must consume to generate and supply electric energy to consumers

Though this project forms, here are examples from the company to explain why the transportation companies need to think about it.

Example1: a car based on natural gas as fuel, and direct energy consumptionis1000 kWh, through looked-up from the table Unit Conversions, Emissions Factors, and Other Reference Data to get the natural gasis1.027kWh_pre / kWh_end, so the Primary energy consumptionis1000 * 1.027 = 1027 kWh.

Examples2: Because more and more companies advocate green logistics when using bio-fuel for energy, if it's renewable energy, it can be as-

sumed that the Primary energy coefficientandEquivalentCO2emissionscoefficientis 0, Primary energy consumption and Equivalent CO2 emission values is 0, so it greatly reducing energy consumption. But in the reality is cannot all fuels are green fuel, so the first step to come true as the company's goal is to minimize the energy consumption value, the second step is to consider how can the company use of bio-fuels as much as possible. It is not only can save energy, but also really environmental protection. The objective of the logistics' company is to development sustainable transportation with environmental damage. Therefore, implement low carbon transport became the development trend in the logistics company.

4.2 Why low carbon transport

Transportation energy consumption, accounted for more than 30% of global greenhouse gas emissions, carbon dioxide generated towards a low-carbon economy is inevitable requirement for the development of low-carbon transport. The development of low-carbon transport is an inevitable choice for transportation adjusts the structure, change the mode of development. Few years ago, due to the slow development of railway transport, road and air transport ahead of the development of transportation structural imbalance, the formation of high energy consumption, high emission, high pollution, high-carbon development model. The high transport costs increase the cost of industrialization and urbanization, high-carbon transportation led to a high-carbon economy. Develop the railway and water transport for the transport industry in China has important transition to a low-carbon transport. Because of these two modes of transport has a large volume, small footprint, energy conservation, low transportation costs high light the advantages of the need to account for a greater proportion of the integrated transport system. Nowadays, more and more companies become aware of the problem and try to apply it for the carbon transport in the logistics development.

4.3 Why green transportation

With the development of global trade, the road traffic transportation industry will continue to rise; the transport sector will be one of the main sources of greenhouse gas emissions. Scandia sustainable transport proposed a comprehensive solution concept of combining old and new, that the use of renewable fuels, hybrid technology, driver training, as well as more efficient logistics system (Sustainable Transport, 26th, November, 2012.)

With the increasing of traffic, the globe's transport of carbon dioxide emissions standards becomes more stringent. Under the circumstance,

develop the green transpiration is very important for the whole logistics industry. More the examples are as follows.

Firstly, make use of alternative fuels into the renewable fuel.

Second, apply for the hybrid technology. Increase in hybrid technology research and development investment.

Thirdly, open driver training courses.

Fourth, correction tire pressure. Rolling resistance of the fuel consumption accounts for about 30% of the cost of the vehicle use. Proper tire pressure and tire size can optimize the rolling resistance.

Fifth, Optimization of transport systems to improve transport efficiency, avoid no-load, wasted fuel.

Sixth, improve the freight ability. To extended the vehicle trailer and maximize open the cargo space.

Seventh is reducing air resistance. If improperly installed components installed on the truck, such as the diversion board and assist lamp, it will increase the air resistance, even to raise fuel consumption.

The last one is the use of advanced technology to improve fuel economy.

5 CONCLUSION

At present, the majority of logistics enterprises in China are in the circumstances that the distribution of transport resources is uneven, the arrangement for distribution route is unreasonable, and the waste of capacity resources is serious. The lack of the optimization vehicle scheduling programs is one of the important factors causing this situation. Therefore, the research on logistics transportation problems has important practical significance. According to this, the author has a clear understanding of the company’s road transport situation to observe China's economic development trend, the traditional logistics has a big impact for China in the international logistics industry development. Above all, this article analysis of transportation issues from a Chinese company and of cases basis on the green logistics to find out countermeasures for the issues and according to the questionnaire to make an intensive discussion and find out the better way to deal with the difficulties.

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Appendix 1

Thesis Questionnaire

Hello Sir/ Madam
My name is Li Cai, I am the final year student from the HAMK University of Applied Sciences, Forssa campus. My subject is supply chain management. I am currently writing my Bachelors thesis on the topic “Analysis of transportation issues from company and basis on the green logistics to find out countermeasures". In my research, I would like you can help me answer the questionnaire according to your company situation which will help me to analyze the transportation issues. Here is the link which cans you answer the questionnaire online.

https://docs.google.com/spreadsheet/viewform?formkey=dG5kaVFVSUFGY1VqUUJEVVU4NEhkaVE6MQ

on the other hand, could you please offer more data to show that what are the challenges faced by logistics companies to overcome the issue of greenness

I would also want to emphasize that all the data provide by you will strictly be kept in our University and used for the academic purposes in the future. Thank you very much and have a good time.

Yours faithfully
Li Cai

The Purpose of this questionnaire is to assess the situation of your company with respect to Green transportation

1. How many years has your firm been involved in logistics industry?
A. Less than 2 years
B. 3-5 years
C. 6-10 years
D. 11 years or more

2. What is your enterprise’s main business?
A. Warehouse Service
B. Transportpation Service
C. Distribuution Service
D. Freight forwarding Service

3. What do you think is the most important issue in transportation at present?
A. The information of technology is inadequate
B. The enterprise and the consumer of transportation concepts are still not too strong

C. Lack of cooperation and communication between enterprises
D. Logistics' enterprises lack of experience

4. What kind of elements do you think can promote transportation in your company?
A. Improve the transport efficiency
B. To reduce the logistics cost
C. To improve the customer service level
D. Protect the environment and resource reuse
E. To improve the enterprise image
F. Increase profits

5. What do you think of the transportation development in China as well as Finland?
A. Very good
B. Good
C. Satisfactory
D. Bad

6. What do you think are the factors affecting the development of transportation?
A. Weak infrastructure
B. High cost price
C. The government's involvement is not high
D. Low technical level

7. Does your enterprise support the development of transportation?
A. Yes
B. No

8. Do you think that your company practices green transportation on the basis of green logistics?
A. Yes
B. No

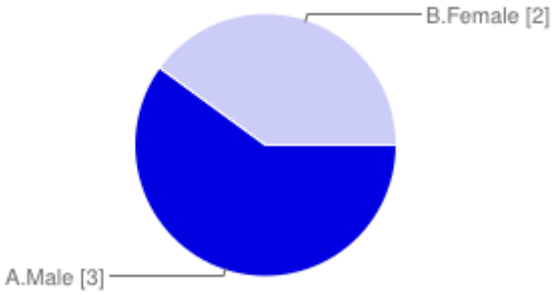
9. What kinds of benefits do you think your company will obtain from the development of transportation?
A. To get a new competitive advantage
B. To improve the corporate image
C. Increased market share
D. Protect the environment; raise the utilization ratio of natural resources.

10. What is the biggest transportation issue in your company? And how did your company handle it?

11. What kinds of achievements did your company get on the transportation?

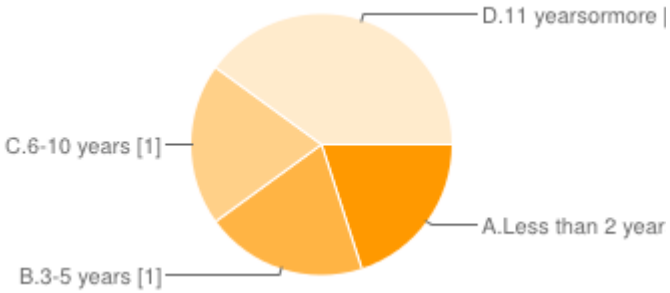
12. What are the challenges faced by logistics companies?

1. Gender



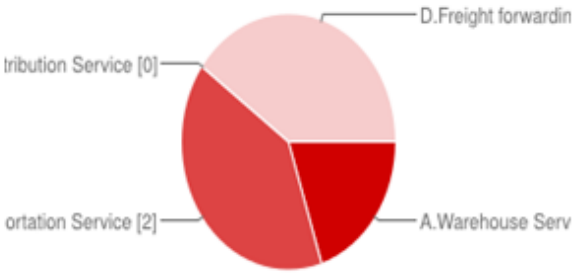
A. Male	3	60 %
B. Female	2	40 %

2. How many years has your firm been involved in logistics industry?



A. Less than 2 years	1	20 %
B. 3-5 years	1	20 %
C. 6-10 years	1	20 %
D. 11 years or more	2	40 %

3. What is your enterprise's main business?



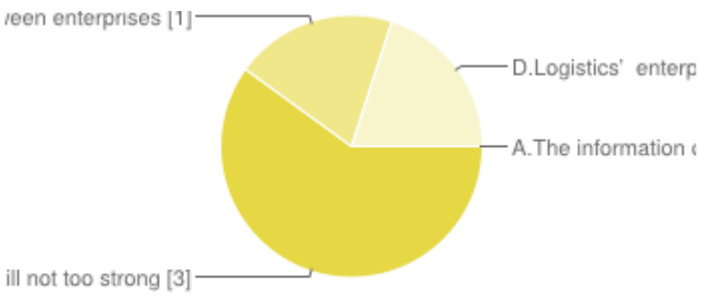
A. Warehouse Service	1	20%
B. Transportation Service	2	40%
C. Distribution Service	0	0%
D. Freight forwarding service	2	40%

4. What do you think is the most important issue in transportation at present?

A. The information of technology is inadequate	0	0%
B. The enterprise and the consumer of transportation concepts are still not	3	60%

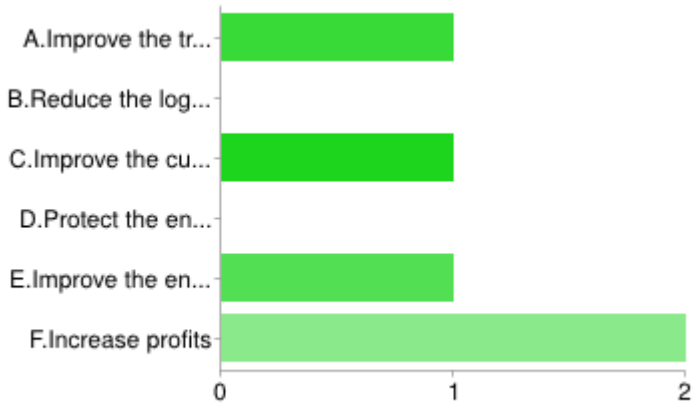
too strong

C. Lack of cooperation and communication between enterprises	1 20 %
D. Logistics' enterprises lack of experience	1 20 %

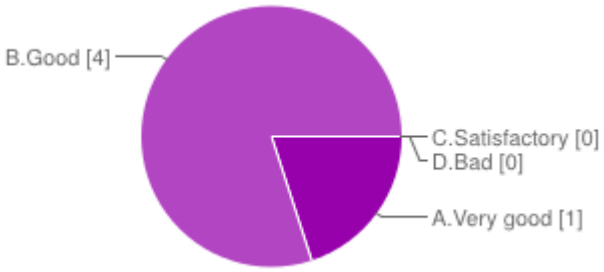


5. What kind of elements do you think can promote transportation in your company?

A. Improve the transport efficiency	1 20 %
B. Reduce the logistics cost	0 0 %
C. Improve the customer service level	1 20 %
D. Protect the environment and resource reuse	0 0 %
E. Improve the enterprise image	1 20 %
F. Increase the profits	2 40 %



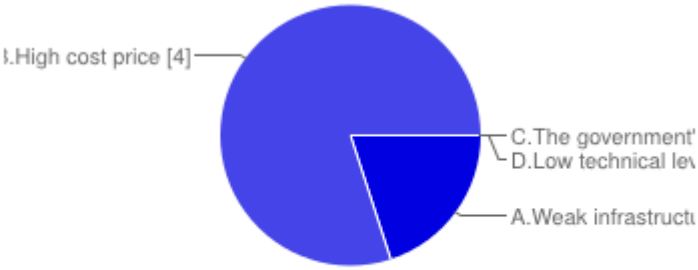
6. What do you think of the transportation development in China as well as Finland?



A. Very good	1	20 %
B. Good	4	80 %
C. Satisfactory	0	0 %
D. Bad	0	0 %

7. What do you think are the factors affecting the development of transportation?

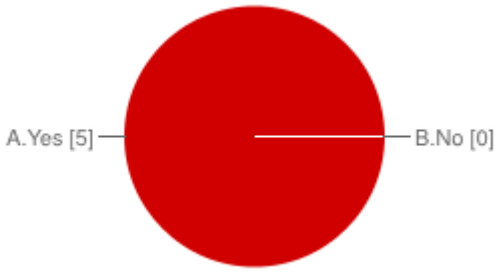
A. Weak infrastructure	1	20 %
B. High cost price	4	80 %
C. The government's involvement is not high	0	0 %
D. Low technical level	0	0 %



8. Does your enterprise support the development of transportation?

A. Yes	4	80 %
B. No	0	0 %

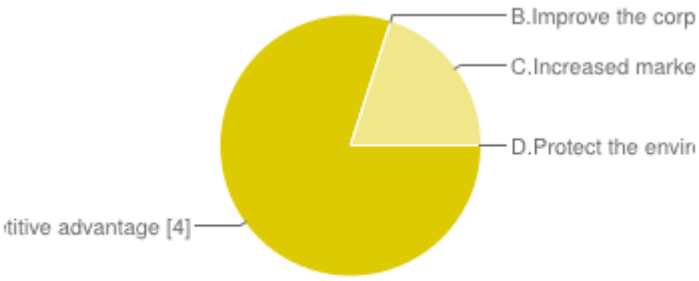
9. Do you think that your company practices green transportation on the basis of green logistics?



A. Yes 5 100 %
B. No 0 0 %

10. What kinds of benefits do you think your company will obtain from the development of transportation?

A. Get a new competitive advantage	4 80 %
B. Improve the corporate image	0 0 %
C. Increased market share	1 20 %
D. Protect the environment; raise the utilization ratio of natural resources	0 0 %



11. What is the biggest transportation issue in your company? And how did your company handle it?
A. Get a new competitive advantage Last mile transportation, only partly solved at the moment. No

12. What kinds of achievements did your company get on the transportation?
No

13. What are the challenges faced by logistics companies?

No1, logistics competitiveness; 2, optimization of logistics facilities, 3, the cost of the problem; 4 logistics personnel missing; Uncertain economical situation affects all logistics companies.